Hazardous Waste Operations and
Emergency Response
(Hazwoper)

First Responder Operations Level Training

Mission

This course meets the requirements of 29 CFR 1910.120(q), the Hazwoper regulation, for the First Responder Awareness level (for hazardous materials response) and the First Responder Operations level (for oil spill response). It meets the requirements of 29 CFR 1910.120(q)(6)(i) for emergency response to a potential or actual release of hazardous substances plus the following mandated competencies from the Hazwoper regulation for a discharge of oil:

Have knowledge of "basic hazard and risk assessment techniques" in an incident USCG personnel would commonly respond to. *29 CFR 1910.120(q)(6)(ii)(A)*

Know how to "select and use proper personal protective equipment provided…" *29 CFR 1910.120(q)(6)(ii)(B)*

Understand "basic hazardous materials terms" that USCG personnel would typically respond to. *29 CFR 1910.120(q)(6)(ii)(C)*

Know how to "perform basic control, containment and/or confinement operations" under the limitations of the training and protective equipment provided. *29 CFR 1910.120(q)(6)(ii)(D)*

Know how to implement "basic decontamination procedures." *29 CFR 1910.120(q)(6)(ii)(E)*

Understand "standard operating procedures and termination procedures" as directed by your Coast Guard policies. *29 CFR 1910.120(q)(6)(ii)(F)*

Course Strategy

This course is intended for U.S. Coast Guard personnel assigned to units such as Stations, Marine Safety Units, Air Stations and Cutters. Although this is a standardized curriculum we encourage instructors to modify or adapt curriculum as needed to address unique local needs.

Scope

The First Responder will have the capability to respond to a hazardous incident in a safe and competent manner, recognize hazardous materials incidents and implement actions to protect themselves and the public. They are trained to respond in a ***defensive*** manner without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures.

Terminal Performance Objectives

At the successful completion of this course, students shall:

- Given applicable course materials, identify the course purpose, scope, and applicable HAZWOPER regulations.
- Given a scenario, define the term "hazardous materials" and state the role of the First Responder at the Awareness and Operations level as defined by Title 29 Code of Federal Regulations 1910.120(q)(6)(i).
- Given a scenario, recognize a hazardous incident through basic clues, warning signs, placards, labels, shipping papers, and material safety data sheets.
- Given a scenario, identify, from a safe distance, the hazardous substance(s) present at the incident; and, identify a safe approach to a hazardous incident.
- Given a scenario, state first responder actions, personal protective equipment and limitations at the applicable training level.
- Given a scenario, list basic identification and assessment techniques using available reference material.
- Given a scenario and the DOT Emergency Response Guidebook (ERG), demonstrate the use of the Department of Transportation Emergency Response Guidebook (current DOT ERG) and a Material Safety Data Sheet (MSDS).
- Given a scenario, identify the need for the appropriate decontamination of victims, emergency response personnel and equipment, in order to avoid additional contamination.
- Given a scenario, list site control measures a First Responder can use to minimize potential exposure and state basic safety precautions.
- Given a scenario, identify the applicable contingency plan to follow when responding to a hazardous incident.
- Given a functional-based elective, demonstrate first-responder actions in a simulated hazardous incident.

Qualifications

Participants: Coast Guard personnel who, in the course of their normal duties, may encounter an uncontrolled release of oil or a hazardous substance or any other situation that may have personnel hazards. They can be of any paygrade or rating. The experience level of the participants will range widely. Therefore, prior to conducting this training, the instructor should find out what the specific duties are of the participants and tailor the Functional Based Electives as appropriate.

Instructors: Personnel meeting the requirements of 29 CFR 1910.120 Appendix E and that have experience in oil spill response. The Training Director shall determine if an instructor is competent to teach First Responder-Awareness Level courses and so certify in writing. Instructors should meet the requirements of 29 CFR 1910.120 Appendix E. Instructors should have some combination of the following Hazwoper training: Hazardous Materials Technician, Hazardous Materials Incident Commander, Hazardous Materials First Responder Operations or General Site Worker.

Evaluation

Participants may take a multiple choice written examination at the conclusion of the course. The minimum passing score for successful completion is 80%. During the course, they shall participate in a functional-based elective exercise involving a simulated hazardous incident. Instructors will qualitatively determine whether the participants have me the objectives of the exercise.

Deployment

IAW COMDTINST 6230.31A, the District Response Advisory Team will designate one of their members as the "Training Director" as per 29 CFR 1910.120 Appendix E. The designated Training Director will coordinate the delivery of this Awareness level training for applicable field units. The course will require one classroom and one "breakout" room for group problem solving exercises.

The course is designed for a variety of delivery options. Instructors can teach the course in one day, teach it in modules of an hour each or teach it in increments of that best fit the duty schedule of the unit(s) involved.

Schedule

Block Title		Hours
Introductions and Administrative Functions		0.5
Introduction to Hazwoper		1.0
Hazard Recognition		1.0
Hazard Evaluation		1.0
Hazard Control		1.0
Drum Recovery System (optional)		1.0
Review		0.5
Functional-Based Elective Exercise		2.0
	Total	8

Course Supplies and Equipment

Mandatory items are the normal classroom equipment (tables, chairs, A/V equipment, white board, etc.). Instructors should provide any props they desire to use for class activities and exercises (e.g. DOT placards and labels, ERGs). Instructors can obtain props such as placards, ERGs, and charts of placards and labels from various commercial suppliers. The following is a list of sources of supply for props related to DOT regulations: (copy attached)

Government Bookstores: http://bookstore.gpo.gov/locations/index.html
Commercial Vendors: http://hazmat.dot.gov/erg2000/commsupp.pdf

Instructors and training directors may obtain videos from a number of sources. The following will lend videos (note: Most loaner videos are copyrighted but some will permit copying for educational use, check before copying.):

FEMA Regional Offices: http://www.fema.gov/about/regoff.htm
American Chemistry Today (Chemtrec): 301-617-7824

The following vendors sell videos related to hazmat response (note: Many of the vendors that sell ERGs also sell training videos.):

Chlorine Institute: http://www.cl2.com/
Emergency Film Group: http://www.efilmgroup.com/
Video Learning LearnCom: http://www.learncom.com (shaving cream video)
National Fire Protection Association: http://www.nfpa.org/ (BLEVE Video)

Course References

The references listed below apply to the entire course. Instructors should procure copies of each and become familiar with them prior to teaching the course (all except NFPA 472 are available from government websites).

Required References

COMDTINST 6260.31A, *Health and Safety Training Requirements for Coast Guard Response Operations*
COMDTINST M16000.11 (series), *Marine Safety Manual*
29 CFR 1910.120(q), *Hazardous Waste Operations and Emergency Response*
OSHA CPL 2-2.59A, *Inspection Procedures for the Hazardous Waste Operations and Emergency Response Standard, 29 CFR 1910.120 and 1926.65, Paragraph (q): Emergency Response to Hazardous Substance Releases*
OSHA 3172, *Training Marine Oil Spill Response Workers Under OSHA's Hazardous Waste Operations and Emergency Response Standard*
40 CFR 300, *National Oil and Hazardous Substances Pollution Contingency Plan*
49 CFR 171-180, *Hazardous Materials Regulations and Procedures*

Optional References

Commonsense Approach To Hazardous Materials, 2nd Ed., Frank L. Fire
Chemistry Of Hazardous Materials, 2nd Ed., Eugene Meyer
Hazardous Materials Managing the Incident, 2nd Ed., Greg Noll, Mike Hildebrand, Jim Yvorra
Decontamination For Hazardous Materials Emergencies, Timothy V. Henry
Hazardous Materials: Strategy and Tactic, David M. Lesak
Hazardous Materials Emergencies Involving Intermodal Containers: Guidelines and Procedures, Noll, Hildebrand, and Donahue
Hazardous Materials/Waste Handling For the Emergency Responder, Kenneth York & Gerald Grey
Emergency Management of Hazardous Materials Incidents, John E. Bowen
Hazardous Substances Emergency Events Surveillance Annual Reports, Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, Atlanta, GA
Annual Toxic Release Inventory, US EPA
NFPA 704: Standard for the Identification of the Fire Hazards of Materials for Emergency Response, 1996 Edition
NFPA 471: Recommended Practice for Responding to Hazardous Materials Incidents
NFPA 472: NFPA 472: Standard for Professional Competence of Responders to Hazardous Materials Incidents, 1997 Edition
The Dose Makes the Poison, Ottoboni
Threshold Limit Values for Chemical Substances and Physical Agents, ACGIH
Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, NIOSH/OSHA/USCG/EPA
Hazardous Materials for First Responders, International Fire Service Training Association

Notes

Instructors should use hands-on activities to the maximum extent possible. We have provided options for most blocks of instruction. Instructors should feel free to use one or more of them or develop their own activities applicable to the work situation of the class participants. We have also included review activities.

There is some overlap of material in this course. This is intended to reinforce key learning points. In many cases, the curriculum introduces a subject in one part of the course then expands on it and relates it to other subject matter in other parts of the course. This overlap helps class participants to better retain the material.

Instructors are encouraged to modify such a class to meet the needs of the class participants, taking into account factors such as prior hazmat training, prior experience and the amount of time since any prior hazmat training.

Units of Instruction

Introductions and Administrative Functions

Terminal Performance Objective

Welcome class participants, complete applicable paperwork, pass out course material, provide administrative announcements and divide class into appropriate exercise groups.

Enabling Objectives

- PERFORM appropriate introductions.
- COMPLETE necessary forms.
- STATE necessary administrative announcements.
- IDENTIFY training needs of class participants.
- Divide class into appropriate groups.

Teaching Methods

Introductions and Welcome	Lecture and optional activity.
Key Administrative Functions	Activity.
Class Grouping Activity	Activity.

References

COMDTINST 6260.31A
29 CFR 1910.120

Introduction to Hazwoper

Terminal Performance Objectives

Given a scenario, define the term "hazardous materials" and state the role of the First Responder at the Awareness and Operations level as defined by Title 29 Code of Federal Regulations 1910.120(q)(6)(i).

Enabling Objectives

- IDENTIFY the definition of "hazardous materials" according to the DOT.
- IDENTIFY the terms used by various Federal Agencies when describing Hazardous Materials.
- IDENTIFY the DOT hazard classes and divisions of hazardous materials and common examples of each.
- CITE five levels of Haz Mat responders.
- DEFINE First Responder Awareness level.
- DEFINE First Responder Operations (FRO) level.
- IDENTIFY differences in the First Responder Awareness & Operations levels.
- STATE the Technician level definition.
- STATE the Specialist level definition.
- STATE the Incident Commander (IC) level definition.
- IDENTIFY differences between FRO, Technician, Specialist and IC levels.
- CITE and DESCRIBE major Haz Mat laws and regulations.

Teaching Methods

Introduction	Lecture
Laws and Regulations	Lecture
Contingency Plans	Lecture and Practical Application
Hazwoper Responder Levels	Lecture
Course Overview	Lecture

References

COMDTINST 6260.31A
29 CFR 1910.120
OSHA CPL 2-2.59A
OSHA 3172, *Training Marine Oil Spill Response Workers Under OSHA's Hazardous Waste Operations and Emergency Response Standard*
National Fire Protection Association 472
40 CFR 300, National Oil and Hazardous Substances Pollution Contingency Plan

Hazard Recognition

Objectives

Terminal Performance Objective

Given a scenario, recognize a hazardous incident through basic clues, warning signs, placards, labels, shipping papers, and material safety data sheets. Given a scenario, identify, from a safe distance, the hazardous substance(s) present at the incident; and, identify a safe approach to a hazardous incident.

Enabling Objectives

- IDENTIFY the six Haz Mat recognition clues as per NFPA 472.
- IDENTIFY at least three typical outward warning signs of a hazmat release.
- IDENTIFY typical occupancies and locations in a community where hazardous materials are manufactured, transported, stored, used, or disposed of.
- IDENTIFY typical containers that may contain hazardous materials in the maritime environment.
- IDENTIFY the components of a placard.
- IDENTIFY where to find material safety data sheets (MSDS).
- IDENTIFY at least two required items of information found on a Shipping Paper and MSDS.
- DESCRIBE the limitations and dangers of using the senses in determining the presence or absence of hazardous materials.
- STATE the utility and limits of the ERG and a Material Safety Data Sheet.
- Given the current edition of the ERG IDENTIFY the three methods for determining the appropriate guide page for a specific hazardous material and the two general types of hazards found on each guide page.
- Given a copy of the current edition of the ERG DESCRIBE the difference between the protective action distances in the orange-bordered guide pages and the green-bordered pages in the document. Identify the circumstances under which they are used at a hazardous materials incident.
- Given the identity of a hazardous material IDENTIFY the applicable response information using the current edition of the ERG and the applicable Material Safety Data Sheet.
- Given an NFPA 704 marking, IDENTIFY the significance of the colors, numbers, and special symbols.

Teaching Methods

On-Scene Hazards	Lecture and Practical Application
Hazard Recognition Clues	Lecture and Practical Application
NFPA 704 System	Lecture and Props
Markings and Labels	Lecture and Props
Reference Material	Lecture, Practical Application and Props
Confined Space	Lecture and Practical Application
Response Scenario	Lecture and Practical Application

References

COMDTINST 6260.31A
29 CFR 1910.120
OSHA CPL 2-2.59A
National Fire Protection Association 472
40 CFR 300, National Oil and Hazardous Substances Pollution Contingency Plan

Hazard Evaluation

Objectives

Terminal Performance Objective

Given a scenario and the DOT Emergency Response Guidebook (ERG), demonstrate the use of the Department of Transportation Emergency Response Guidebook (current DOT ERG) and a Material Safety Data Sheet (MSDS). Given a scenario, list basic identification and assessment techniques using available reference material.

Enabling Objectives

- Explain three techniques to ensure a FROs safety in a response.
- Identify the primary toxic health effects.
- Define "Poison" and "Toxicology".
- Describe the difference between acute and chronic exposures.
- Define and describe at least the following toxicology acronyms: IDLH, TLV and PEL.
- Name and describe three key Physical & Chemical Property acronyms/terms.
- Explain the purpose of an MSDS.
- List the components of an MSDS that can assist responders in evaluating the hazards from a release of a hazardous material.
- State basic safety precautions a First Responder can implement.

Teaching Methods

Introduction to Hazard Evaluation	Lecture
Material Safety Data Sheets (MSDS)	Lecture and Activity
Exposure Limits	Lecture
MSDS Exercise	Lecture and Activity

References

COMDTINST 6260.31A
29 CFR 1910.120
OSHA CPL 2-2.59A
National Fire Protection Association 472
40 CFR 300, National Oil and Hazardous Substances Pollution Contingency Plan

Hazard Control

Objectives

Terminal Performance Objectives

Given a scenario, list site control measures a First Responder can use to minimize potential exposure and state basic safety precautions. Given a scenario, identify the need for the appropriate decontamination of victims, emergency response personnel and equipment, in order to avoid additional contamination.

Enabling Objectives

- DESCRIBE how the lack of protective equipment is the #1 limitation on the hazmat response capabilities of a First Responder.
- IDENTIFY the four levels of Protective Clothing.
- IDENTIFY the purpose, advantages, and limitations of the each level of Protective Clothing at hazardous materials incidents:
- Given a hazmat incident scenario IDENTIFY the appropriate personal protective equipment required.
- IDENTIFY at least three considerations for selecting & using proper PC level.
- EXPLAIN the purpose of and need for decontamination.
- IDENTIFY when decontamination is done.
- IDENTIFY the purpose of emergency decontamination procedures at hazardous materials incidents.
- DESCRIBE emergency decontamination procedures.
- Given a scenario, IDENTIFY the need for the appropriate decontamination of victims, emergency response personnel and equipment.
- Given a scenario, STATE site control measures a First Responder can use to minimize potential exposure and describe basic safety precautions.
- Given a scenario, DESCRIBE first responder actions, personal protective equipment and limitations at the applicable training level.

Teaching Methods

Safety Basics	Lecture
Personal Protective Equipment (PPE) Basics	Lecture
Levels of Protection	Lecture
PPE for Oil Spill Response	Lecture
Decontamination	Lecture and Video
Medical Monitoring and Surveillance	Lecture
PPE and Decon Exercise	Lecture and Exercise

References

COMDTINST 6260.31A
29 CFR 1910.120
OSHA CPL 2-2.59A
National Fire Protection Association 472
40 CFR 300, National Oil and Hazardous Substances Pollution Contingency Plan

Drum Recovery System (DRS) (Optional)

Objectives

Terminal Performance Objective

Be able to properly deploy the DRS, list its components and describe safety precautions for use of the system.

Enabling Objectives

IDENTIFY the parts of the DRS system
IDENTIFY the steps for deploying the DRS system.

Teaching Methods

DRS Contents	Lecture and Props
DRS Safety Precautions	Lecture

References

COMDTINST 6260.31A
29 CFR 1910.120

Note

This module is optional. It may not comply with policies in some Districts. Consult the applicable District instructions prior to teaching this module.

Functional-Based Elective Exercises

Objectives

Terminal Performance Objective

Given a functional-based elective, demonstrate first-responder actions in a simulated hazardous incident.

Enabling Objectives

- PREDICT the likely behavior of a hazardous material and its container and identify the primary countermeasures a FRO can take to protect nearby persons, environment, and property.
- Given an appropriate scenario, IDENTIFY safety hazards present.

Teaching Methods

Functional-Based Elective Exercise

Exercise

References

COMDTINST 6260.31A
29 CFR 1910.120